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contacting within said oligomerization reaction zone said oligomerization feed mixture with a catalyst complex consisting essentially of boron trifluoride and an alcohol promoter to thereby yield a polyalphaolefin product; and

providing a concentration in said oligomerization feed mixture of a modifier consisting essentially of carboxylic acid wherein said concentration is sufficient to significantly increase the yield of trimer and tetramer in said polyalphaolefin product as compared to the yield when there is no said concentration of said modifier.

11. ² (New) An improved oligomerization process as recited in claim 10¹ wherein the carboxylic acid of said modifier is selected from molecules containing from 2 to 10 carbon atoms.

12. ³ (New) An improved oligomerization process as recited in claim 10¹ wherein said concentration of said modifier is in the range of from about 0.08 mole percent to about 2.0 mole percent based on the said alpha olefin of said oligomerization feed mixture.

13. ⁴ (New) An improved oligomerization process as recited in claim 12³ wherein said concentration of said modifier is in the range of from 0.16 mole percent to 0.35 mole percent based on the alpha olefin of said oligomerization feed mixture.

14. ⁵ (New) An improved oligomerization process as recited in claim 10¹ wherein said oligomerization reaction zone during the contacting step is maintained at a temperature in excess of 30°C.

15. ⁶ (New) An improved oligomerization process as recited in claim 14⁵ wherein said oligomerization reaction zone during the contacting step is maintained at a temperature in the range of from 40°C to 150°C.